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细胞的分裂增殖及其运动迁移,并因此抑制新生血管生成,使之保持在无血管静止状态。

最近,陈季武等^[1]报道3种真菌多糖在体外能与DNA相互作用,并呈量效关系,其作用机理可能是:通过大分子之间的相互作用,多糖使EB从DNA分子上解离下来,修复损伤DNA;或者使DNA双螺旋结构解体或切断,释放出EB分子,从而使嵌入的EB荧光减弱,作者应用荧光探针法研究SCAMP与DNA的体外作用,发现其也能与DNA相互作用,并呈量效关系,提示了微生物、植物和动物多糖与DNA可能都具有不同程度的相互作用,这也可能是多糖防癌、抗癌作用的关键所在,某些细菌、真菌和植物多糖抗肿瘤活性是通过刺激宿主,提高其免疫活性,促进细胞免疫和体液免疫,诱导生成IL-1, IL-2, TNF, IFN等细胞因子,调节补体和抗体的生成,以达到抗癌目的,而SCAMP是否也具有上述作用,需要进一步深入研究。^[2]

参考文献

- 1 沈先雄,贾锡星,王玲等.中国生化药物杂志,1997,18(3):123-126
- 2 吕家本,蒋定文,于志清等.中国生化药物杂志,1998,19(6):378-380
- 3 于志清,苏福强,吕家本等.中国生化药物杂志,1998,19(2):85-87
- 4 柴向华,余渭哲,吴克刚等.中国生化药物杂志,1999,20(1):38-40
- 5 生物化学合多糖生化研究丛书 上册:上海科学技术出版社,1987,291-298
- 6 彭秀玲,袁汉英,谢毅等.基因工程实验技术(第二版).长沙:湖南科学技术出版社,1997,264-266
- 7 陈季武,胡天喜,余振勋等.华东师范大学学报,1999,1:94-97
- 8 高玉琼,刘建华,雷昕等.生物化学杂志,1996,12(2):215-218

STUDIES ON THE PHYSIOCOCHEMICAL PROPERTIES OF SCAMP AND ITS INTERACT WITH DNA

LI Dongxia¹ LI De-liang² ZHANG Shuangquan¹

(¹College of Life Sciences, Nanjing Normal University, 210097)

(²Department of Diagnostics, Nanjing General Hospital, Nanjing, 210002)

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Abstract

In this paper, shark cartilage acid mucopolysaccharide (SCAMP) was extracted from shark cartilage by the improved method. The results of physicochemical properties experiments showed that SCAMP is composed of 29.90% aminogalactose, 27.00% glucuronic acid, 13.50% SO₃⁻ and 0.20% protein. Fourier spectra experiment suggested that all residues of SCAMP are linked by α -glucosidic bond. By conclusion, the most of SCAMP is likely chondroitin sulfate. By fluorescence probe method it is proved that SCAMP can interact with DNA, and the inhibitory rate was concentration dependent, which is an important proof to understand its preventive effect of cancer and anticancerous effect more.

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